Policy Climates, Enforcement Rates, and Migrant Behavior: Is Self-Deportation a Viable Immigration Policy?

Rene R. Rocha, Daniel P. Hawes, Alisa Hicklin Fryar, and Robert D. Wrinkle

U.S. immigration policy has been the subject of considerable debate in recent years. Previous research has focused on how temporal variation in federal policy has altered the migratory behavior of immigrants. The effect of spatial variation in enforcement remains untested. Relying on the criminological distinction between general and specific deterrence, we argue that high rates of enforcement are unlikely to encourage undocumented immigrants to self-deport. We also examine the effects cultural and economic immigration policies adopted by the states. Previous research suggests that migrants will choose to remain in states with favorable environments, but this claim has not been directly tested. We draw on data from the Mexican Migration Project (MMP) to address these gaps. MMP data are supplemented with government data on federal enforcement obtained from Immigration and Customs Enforcement (ICE) and measures of state policy. Our findings suggest that higher rates of enforcement and the establishment of negative policy environments do not encourage undocumented immigrants to leave the United States at a higher rate than their documented counterparts do. Rather, high enforcement contexts exaggerate the differences between documented and undocumented migrant behavior, with undocumented migrants staying longer. Liberal state policies have no discernible effect.

KEY WORDS: immigration, deterrence theory, multiculturalism, Latino politics

Immigration policy in the United States is controversial. Much debate focuses on normative issues, with policymakers and activists questioning whether the well-being of individuals should supersede economic and security concerns. Relatively little emphasis is placed on understanding the effects of various policy efforts. If we set aside normative issues, what do we know about the success of state and federal immigration policies? The effects of temporal variation in federal policy on the migratory behavior of immigrants are well understood by scholars. This literature implies that spatial variation in contemporary federal enforcement is likely to be counterproductive; however, the effect of spatial variation in policy enforcement has not been tested.

States have become increasingly active players in immigration policy, but the effects of subnational immigration policies are also unclear. Several state legislatures have passed “anti-immigrant” measures designed to encourage “self-deportation”
by making their regions less attractive to undocumented immigrants. Recent activity such as the passage of SB 1070 in Arizona highlights the lengths to which subnational governments will go to exercise control over immigration to their jurisdictions. Other states continue to promote multicultural policies and offer immigrants access to social welfare programs. Do these differing policy environments affect migratory behavior? Previous research has tied welfare programs to the shifts in the size of the foreign-born population, but it has not distinguished between documented and undocumented immigrants. Furthermore, it has not explored more nuanced aspects of migrant behavior.

In this article, we empirically analyze the effects of policy and enforcement environments on the behavior of documented and undocumented immigrants. We draw on data from the Mexican Migration Project (MMP) to address this issue. The MMP data are supplemented with government data on federal enforcement obtained from Department of Homeland Security and measures of state-level welfare and multicultural policies. Our findings suggest that higher rates of enforcement and the establishment of negative policy environments do not encourage undocumented immigrants to self-deport at a higher rate than their documented counterparts do. Rather, high rates of enforcement exaggerate the differences between documented and undocumented migrant behavior, with undocumented migrants staying longer.

The Logic of Enforcement

Immigration and Criminal Deterrence Theory

Criminal deterrence theory begins with the assumption that sanctions influence behavior. Thus, shifts in the number of apprehensions or the severity of punishment should affect the number of violations committed by offenders (Becker, 1968; Cook, 1980; Erlich, 1975; Wright, Caspi, Moffitt, & Paternoster, 2004; Zimring & Hawkins, 1973). While the use of sanctions should discourage illegal activity, the absence of punishment may promote violations (Stafford & Warr, 1993). This effect occurs due to both direct and indirect experiences (Gibbs, 1975). Even if an individual is not directly subjected to punishment or punishment avoidance, her or his behavior may be affected by the knowledge of what has happened to others. This information is especially influential when the information concerns individuals who resemble the observer in terms of some salient characteristic. Experiential and vicarious knowledge of penalties forms the basis for the distinction made by criminologists between specific and general deterrence (Stafford & Warr, 1993).

Policymakers, then, have several tools with which to affect behavior. They can increase the probability of detection, increase the costs of engaging in the activity, or decrease the benefits of engaging in the activity. Within the context of immigration, federal policymakers may increase the number of linewatch hours along the border and dedicate resources to enforcement activities within the interior. If these efforts are done unevenly, then migratory behavior should differ across space.

Undocumented immigrants, one would expect, respond to changes in enforcement within their regions rather than national trends. This is true even if few
undocumented immigrants are directly subject to sanctions, as spatial variance in enforcement results in differing levels in general deterrence. Higher rates of sanctions against people who are demographically similar have the greatest effect on behavior (Houston & Richardson, 2004). Much of the variance within immigrant communities, such as national origin or employment sector, occurs across space. Levels of homogeneity are much higher within localities than across them (Fraga et al., 2010).

Current literature suggests that enforcement patterns affect migratory behavior, but the effects are contrary to the expectations of those who hope to use either general or specific deterrence to discourage undocumented immigration. Relying on data from the MMP, Massey, Durand, and Malone (2002) show that the enforcement of immigration laws along the U.S.–Mexico border restructures rather than reduces border crossings. The passage of the Immigration Reform and Control Act (IRCA) in 1986 and the Immigration Act of 1990 resulted in a massive growth in the amount of resources available to the Border Patrol and the Immigration and Naturalization Service (INS). The total budget of the Border Patrol grew from $151 million in 1986 to over $1 billion in 2000. The number of Border Patrol officers and linewatch hours expanded rapidly during this time as well. These resources were used, in part, to increase enforcement along popular crossing sites, culminating in Operation Blockade along the Ciudad Juarez–El Paso border and Operations Hold the Line and Gatekeeper along the Tijuana–San Diego border.

Massey et al. (2002) do document a modest reduction in the total number of migrants attempting to enter the country; however, this success is offset by a lower rate of apprehension for migrants crossing outside of Tijuana and Juarez. A growth in the costs associated with undocumented migration (both material and in terms of an increased risk of injury or death) also encourages migrants to increase the amount of time they spend in the United States (Djajic & Milbourne, 1988; Hill, 1987). Doing so theoretically reduces the need for repeat migration in the future, but time spent in the United States also acts as a consistent predictor of a migrant’s decision to permanently resettle in the United States (Wampler, Chavez, & Pedraza, 2009). The end result is a dynamic in which policies explicitly designed to discourage undocumented immigration into the United States have the effect of increasing the undocumented population.

Deterrence, Punishment Avoidance, and Migrant Experiences

The inability of increased border enforcement to reduce the overall number of undocumented immigrants in the United States corresponds to studies on the effectiveness of penalties in other policy areas in which violators are viewed as being insensitive to costs. Studies of drunk drivers suggest that potential offenders are influenced by experiential and vicarious knowledge of punishment and punishment avoidance (Piquero & Paternoster, 1998). Policy can deter individuals from drinking and driving, but the effectiveness of government action will be limited by strong information networks (Bertelli & Richardson, 2008). These networks allow likely violators to become aware of cases of punishment avoidance, which is the most common outcome.
Sanctions are most likely to be effective only if vicarious experiences are heavily discounted (Freeman & Watson, 2006). Even so, Bertelli and Richardson (2008) argue that tougher sanctions for drinking and driving only affect the behavior of those who are least likely to engage in drunk driving. Individuals with a chemical dependency on alcohol are essentially unaffected, or at best marginally affected, by the costs associated with their behavior. Because such individuals are responsible for the vast majority of negative consequences associated with consumption, the impact of penalties and enforcement is negligible.

Meier (1994) reaches a similar conclusion in his study of drug policy. He finds that the enactment of severe penalties for the possession and distribution of highly addictive narcotics, such as heroin, fails to reduce overall levels of consumption. Together, these studies suggest deterrence efforts are unlikely to be successful if: (i) personal experiences with punishment are coupled with vicarious experiences with punishment avoidance and vice versa; or (ii) the desire to violate immigration law is inelastic or unresponsive to changes in costs.

Scholars have long argued that the need for large-scale Mexican migration into the United States is built into the economies of both countries due to differences in the supply and demand for labor, the existence of ethnically segmented labor markets, and fears of structural inflation in the U.S. economy (see Massey et al., 2002; Piore, 1979; Ranis & Fei, 1961). This creates a demand for labor in the United States and a determination to migrate on the part of segments of the Mexican community. Migrants seek to maximize personal income (Borjas, 1989, 1990), but they also use migration as a method to work collectively with members of their community to overcome failures in Mexican credit, capital, and insurance markets (Stark, 1991; Taylor, 1987). As Massey et al. (2002, p. 12) write, “[J]ust as investors diversify risks by purchasing stocks across a range of firms, households diversify risks by sending out members to work in different labor markets. . . . As long as conditions in the various labor markets are negatively or weakly correlated, a household can manage risk through diversification.” In short, for a number of Mexican nationals, the need to immigrate is inelastic. Given that options for documented immigration are extremely limited (Zahniser, Hertz, Dixon, & Rimmer, 2012), this will result in large-scale undocumented immigration, regardless of enforcement conditions.

Punishment avoidance abounds and is a significant determinant of behavior. Although the number of individuals subject to enforcement has grown over the last several years, the vast majority of undocumented immigrants are able to avoid punishment. The number of resources the U.S. government has put into immigration enforcement has grown dramatically in recent years. The Border Patrol’s budget more than tripled between 2000 and 2009, allowing the number of agents to grow from nine thousand to twenty thousand. This doubling of manpower resulted in a doubling of removals during the same period (Massey & Pren, 2012). However, deportation remains relatively rare. In 2000, approximately 97.9 percent of all undocumented migrants were not removed. By 2009, this number had only fallen to 96.7 percent (Massey & Pren, 2012; Warren & Warren, 2013). Punishment avoidance is common. Vicarious experiences with punishment are increasing, but they remain rare.
State Policy

Passel, Cohn, and Gonzalez-Barrera (2012) find that net migration into the United States has approached zero in recent years. This, they speculate, is in part the result of changes in state-level policy. Here we subject this claim to empirical analysis. States have heavily debated passage of “multicultural” policies, such as allowing undocumented immigrants to obtain driver’s licenses, the eligibility of undocumented immigrants for in-state college tuition rates, or state support for the education of students with limited English proficiency. The presence of immigrant-serving institutions enhances the civic life of noncitizens through advocacy and incorporation efforts (de Graauw, 2010). However, it is unclear whether state-endorsed inclusionary efforts will change the migration habits among different types of immigrants. Multicultural policies have been linked to higher levels of political trust, efficacy, and knowledge among the general Latino population (Jeong, 2014). They also help moderate the relationship between immigration social outcomes, such as crime (Lyons, Velez, & Santoro, 2013). The absence of multicultural policies may discourage long-term migration by making life in the United States more difficult. Alternatively, the promotion of social integration through policy may promote quicker returns to countries of origin by fostering the belief that subsequent migration—should it be needed—will be less costly.

States have also debated whether to limit their social welfare policies (such as granting immigrants access to Temporary Assistance for Needy Families [TANF] cash benefits) to discourage immigration. The 1996 Personal Responsibility and Work Opportunities Reconciliation Act gave states discretion to restrict TANF eligibility to qualified noncitizens after a federally imposed five-year ban from receiving benefits after immigrating. Any provision of benefits to otherwise eligible noncitizens during the five-year ban must be funded entirely with state revenue. Undocumented immigrants do not qualify for any benefits.

Economists have examined the effects of welfare generosity on the presence of foreigners within a state without differentiating eligible documented immigrants from ineligible undocumented immigrants (but see Pena, 2014). When studies do differentiate, they often focus exclusively on documented immigrants (Kaushal, 2005). Generally, the foreign-born population has grown more rapidly in states that allow documented immigrants to receive benefits during the five-year ban (Dodson, 2001), even though welfare-dependent migrants tend to cluster in states with more generous benefit levels, implying that migration patterns are highly sensitive to state-level policy (Borjas, 1989; Pena, 2011). This pattern varies with occupation and does not hold for agricultural labors (Pena, 2008, 2014). Still, state actors believe they can manipulate residential choices and economic behavior by changing public policy. Policy diffusion is well documented for welfare programs (Allard, 2004; Figlio, Kolpin, & Reid, 1999; Rom, Peterson, & Scheve, 1998; Saavedra, 2000). States lower welfare benefits in response to changes made by geographically proximate states in order to discourage recipients from relocating to relatively generous areas (but see Berry, Fording, & Hanson, 2003).
Those who rely on immigrant labor can negate state-level policies, both cultural and economic. Employers may increase incentives (such as pay) offered to workers in negative state policy environments. Similar wage increases are unlikely in high-enforcement environments, as employers also seek to compensate themselves for the legal risks they take when hiring undocumented labor (Bansak & Raphael, 2001; Bond & Chen, 1987; Cobb-Clark, Shiells, & Lowell, 1995; Hill & Pearce, 1990; Kossoudji & Cobb-Clark, 2002). These incentives may serve to increase immigrant satisfaction with life in the United States, which is another primary factor leading to permanent resettlement (Massey & Akresh, 2006). In short, inclusionary multicultural or economic policies may either operate just like exclusionary enforcement efforts or produce different outcomes.

To date, there is no empirical evidence regarding the effect of multicultural policies on migratory behavior. Evidence about the effects of welfare programs suggests that immigration patterns do change as a result of public policy decisions (but see Kaushal, 2005). However, this literature ignores whether effects are confined to eligible immigrants or spill over to ineligible immigrants. Here we offer an analysis of how both types of policies, economic and cultural, structure migratory patterns among the documented and undocumented.

**Authorization Status and Migrant Behavior**

Some policies create spillover effects, thereby reducing their ability to affect a specific target population. Employer sanctions, for example, drive down wages for undocumented laborers due to an increased sense of risk on the part of employers (Bansak & Raphael, 2001). The inability of employers to easily distinguish between documented and undocumented immigrants means that wage declines affect other communities, including nonimmigrant Latino workers.

Moreover, there is evidence that the enforcement of immigration laws in the interior of the country has the effect of redistributing undocumented labor rather than reducing its presence within the domestic economy. Spillover effects create incentives for documented immigrants to locate in areas where enforcement rates are low and they are less likely to be subject to negative externalities. These include wage depression or general economic and social discrimination. Anecdotal evidence supports the notion that documented immigrants relocate away from areas where policy targets undocumented immigrants (Fleury-Steiner & Longazel, 2010). Moreover, an increasing number of documented immigrants are part of mixed-status households (Fix & Zimmermann, 2001) and may use the increased mobility and choice that their documentation offers to settle in environments that are more hospitable to their undocumented family members.

The exodus of documented workers from negative environments may paradoxically create a labor vacuum that will be filled by undocumented immigrants, who are less economically mobile and therefore settle for suboptimal positions. Just as the growth in border enforcement during the 1990s was associated with more undocumented immigration, the anti-immigrant state policies and concretion of removals by federal authorities may result in an immigrant population that is largely undocu-
mented. For these reasons, studies of immigration policy must account for the authorization status of migrants rather than examining foreign-born populations generally. One of the best-documented patterns among migrants is the tendency for the undocumented to reside in the United States for a longer period of time than do their documented counterparts. This trend has only become more exaggerated with the growth in border enforcement (Reyes, 2004). Migrant length of stay is also known to be a primary determinant of the number of immigrants residing in the United States (discussed in further detail below). Thus, determining how enforcement and policy interact with disparate lengths of stay among immigrant subpopulations is critical to understanding variance in documentation status across immigrant populations in different regions.

**Hypotheses**

Studying the effects of immigration enforcement and policy environments on the migratory behavior of migrants presents several challenges. Estimates regarding the size of the undocumented population within the United States are available at the state level (Passel, 2006) but are not publicly available at a lower level of aggregation on an annual basis. Because the numbers supplied by demographers are approximations, and the certainty of those estimates varies across space, it is difficult to precisely estimate yearly changes in the size of the undocumented population at the state level. Studying the effects of policy and rates of enforcement on the overall size of the undocumented population also presents complications in terms of determining causality. Past research shows that the size of the foreign-born population is significantly related to the adoption of policies relating to multiculturalism, but the direction of this relationship is unclear. For example, the presence of a large foreign-born population makes the adoption of legislation establishing English as the official language unlikely in states without the initiative process, but it is more likely in states that employ direct democracy (Schildkraut, 2001). Nicholson-Crotty and Nicholson-Crotty (2011) find a similarly divergent effect, depending on the strength of industries that employ undocumented laborers. Large undocumented populations are associated with more lenient policies, if employing industries are influential, whereas states are more punitive in contexts in which immigrants are numerous and industries are ineffectual. One should also note that enforcement on the part of the ICE (and its predecessor, the INS) does not necessarily occur in regions of the country where objective violations are more numerous (Davila, Pagan, & Grau, 1999). We are simply unable to link enforcement to static measures of the size of the undocumented population without raising questions about causality.

For this reason, we seek to associate established policy environments and rates of enforcement to other aspects of the migratory behavior of immigrants. Massey et al. (2002) argue that the increase in the immigrant population in the United States—and, more specifically, the undocumented immigrant population—is caused by changes in migration patterns and not simply by a rise in the number of immigrants entering the United States in a given year. They point to an increase in the length of stay for migrants who entered the United States during the post-IRCA period, with
the median stay for migrants climbing from 2.3 years before the passage of IRCA to 8.9 years by 1998. Massey et al. (2002) calculate that one hundred thousand Mexican migrants entering the United States every year would produce a total immigrant population of 3.3 million, assuming the median length of stay remained at its pre-IRCA level. The same number of new migrants results in an immigrant population of over 12 million, if we allow the median length of stay to stretch to nine years. In short, predicting migratory duration is central to understanding changes in the number of immigrants over time. We investigate how enforcement rates and policy environments affect this important aspect of migratory behavior. This allows for a clearer understanding of the effects of policy than has been offered by previous analyses (e.g., Passel et al., 2012), which focused on potentially misleading indicators, such as the number of new entrants.

Our concern is with the role of enforcement and policy on the behavior of not only undocumented immigrants but also documented immigrants. Specifically, we also are interested in how the migratory behavior of undocumented immigrants changes relative to that of their documented counterparts. This focus allows us to see how differing levels of enforcement and policy might change the makeup of the foreign-born population within a state, as economic incentives make the use of immigrant labor likely, regardless of enforcement and policy regimes (Espenshade, 1995; Finch, 1990). Undocumented immigrants may be discouraged from taking up long-term residence in contexts of high enforcement or where policies require immigrants to prove legal residence to receive services.

Documented immigrants may also opt out of negative environments, even though they are not directly susceptible to sanctions. Such occurrences have been documented in isolated locations, such as Hazleton, PA, following the adoption of local anti-immigrant ordinances (Fleury-Steiner & Longazel, 2010). Documented immigrants may leave because of the negative externalities associated with negative environments, such as social and economic discrimination.

We develop the following hypotheses regarding the relationships among policy climates, enforcement, and migratory behavior. We remain agnostic with respect to the direction of these relationships, given the dueling logics outlined above.

**Federal Enforcement**

*Hypothesis 1a:* The length of stay for immigrants will decline in areas of high enforcement.

*Hypothesis 1b:* The length of stay for immigrants will increase in areas of high enforcement.

*Hypothesis 1c:* The effects of enforcement will differ for immigrants with and without documentation.

**State Multicultural Policy**

*Hypothesis 2a:* The length of stay for immigrants will decline in areas with established multicultural policies.
Hypothesis 2b: The length of stay for immigrants will increase in areas with established multicultural policies.

Hypothesis 2c: The effects of multicultural policies will differ for immigrants with and without documentation.

State Welfare Policy

Hypothesis 3a: The length of stay for immigrants will increase in areas with more inclusive welfare policies.

Hypothesis 3b: The length of stay for immigrants will decrease in areas with more inclusive welfare policies.

Hypothesis 3c: The effects of welfare policies will differ for immigrants with and without documentation.

Data and Methods

Dependent Variable

Our dependent variable is the length of stay in the United States, measured in months, for each respondent. These data, along with many of our independent variables, come from the MMP. The MMP is an initiative that began in 1982 by Jorge Durand and Douglas Massey. The MMP selects communities in different regions, of varying size, and of diverse patterns of social and economic organization. Mexican respondents are selected, using simple, random sampling methods, and the data gathered include complete histories of migration, work, and border crossing for all household heads and spouses. Once fieldwork in Mexico is complete, the MMP sends interviewers to other destinations to compile a proportional sample of settled out-migrants originating in the community. This yields a comparable set of data on long-term U.S. residents. The MMP database offers the largest, most comprehensive, and most reliable source of statistical data on documented and undocumented Mexican immigrants currently available (see http://mmp.opr.princeton.edu for more details). These data include individual-level information on where individuals migrated to (for each migration), when they migrated, and the duration of their migration, as well as a host of individual-level characteristics. We only use data from the post-2001 era in this study. We do this because of the major structural shifts in the institutions governing immigration policy and enforcement during this time. Data availability before 2001 is also limited for many of our independent variables, as the dissolution of INS and the creation of ICE created differences in how data are collected, reported, and made publicly available.2

Independent Variables of Interest

Legal Status. Included in the MMP data are immigrant self-reports regarding the legality of their migration. Approximately 75 percent of the respondents self-identify
as undocumented immigrants, lessening concerns about underreporting. These data, then, provide a unique opportunity to quantitatively study the behavior of both documented and undocumented immigrants. We utilize these data to investigate how federal enforcement, state policies, and culture affect both documented and undocumented immigrants.

**Federal Enforcement/Deportation.** Several additional data sources are utilized to test the hypotheses listed above. Our analysis examines the years 2002 through 2008. We measure one of our key explanatory variables—federal enforcement—using data on deportation rates from ICE. ICE is charged with deporting undocumented immigrants and is organized across the nation into Special Agent in Charge (SAC) offices, each responsible for a different geographical area. There are 26 principal SAC field offices across the United States. Most of these offices encompass multiple states, but there are several exceptions in some of the larger states (including California, Texas, Florida, and New York).

As the investigative and enforcement arm of ICE, each respective SAC field office handles deportations. SAC field office administrators possess a significant amount of autonomy and discretion (Wells, 2004). Not surprisingly, we see considerable variation in deportation rates across SAC jurisdictions. In 2005, the number of deportations by SAC jurisdiction varied from 11,514 (Los Angeles) to 892 (Buffalo). For this article, we are interested in the deportation rates, rather than absolute numbers, as the total number of deportations is greatly affected by the total number of immigrants. As such, high numbers of deportations are not necessarily indicative of the probability of being deported. Using deportation rates better captures the relative intensity of enforcement, which should be more influential in affecting immigrant behavior.

To create a measure deportation rates, we use estimates of undocumented immigrant group size created by Jeffery Passel (2006) and the Pew Hispanic Center as a baseline. These estimates are based on data from the U.S. Census Current Population Survey and are widely considered to be some of the most reliable estimates available. To create a deportation rate, we simply take the total number of ICE deportations as a percentage of the total estimated number of undocumented immigrants for each SAC jurisdiction. The percentage of all undocumented immigrants deported in 2005 by SAC jurisdiction ranged from a low of 0.39 percent in Baltimore to a high of 2.49 percent in Phoenix. In the models, we use a mean-centered calculation of deportations rates; thus, a value of zero represents the average deportation rate.3

**Multicultural Disposition.** The first state-level variable we consider is the presence of multicultural policies. Data are drawn from the work of Hero and Preuhs (2007). They offer a publicly available score based on the multicultural disposition of states. Conceptually, this measure captures a state’s general proclivity to support the inclusion of immigrant populations, especially undocumented immigrants, in various ways. Scores are generated via factor analysis and account for whether or not a state has adopted the following state policies: allowing undocumented immigrants to be eligible for a driver’s license, allowing undocumented students to qualify for in-state
resident tuition and fees at public institutions of higher education, funding limited-
English-proficiency programs, certification for English as a second language teach-
ers, certification for bilingual teachers, and recognition of Cesar Chavez Day (Hero &
Preuhs, 2007, p. 513). Higher values indicate states with policies more favorable to
immigrants.4

Immigrant Welfare Inclusion. We also consider state extension of TANF benefits
to immigrants during the federal five-year ban imposed by the 1996 Personal
Responsibility and Work Opportunities Reconciliation Act. We create a dichotomous
variable where “1” means qualified documented immigrants are eligible for TANF
benefits.

Control Variables

We also include several control variables. First, we recognize that occupational
skills can play a prominent role in employment opportunities for workers, docu-
mented or otherwise. As such, we control for two occupations—agricultural and
manufacturing—that may influence immigrants’ decisions regarding migratory
duration. To control for these occupations, we include two dummy variables that
indicate whether the immigrant works in the agriculture or manufacturing fields,
respectively. We also control for several individual-level demographic factors,
including age,5 gender, educational attainment (in years), and marital status. At the
state level, we also control for the percentage of the state population that is foreign-
born, the state unemployment rate, and include a dummy variable for border states.
Table 1 presents descriptive statistics for all the variables.

Given the structure of the data, there are a number of modeling options we could
employ. Because we are using both individual- and state-level data, hierarchical
models are ostensibly an obvious choice.6 We did run a series of hierarchical linear

Table 1. Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of stay</td>
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<td>19.38</td>
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<td>78</td>
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<tr>
<td>Independent variables</td>
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</tr>
<tr>
<td>Deportation rate</td>
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<td>0.52</td>
<td>0.14</td>
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</tr>
<tr>
<td>Undocumented immigrant</td>
<td>0.75</td>
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<td>1</td>
</tr>
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<td>Multicultural disposition</td>
<td>0.65</td>
<td>0.86</td>
<td>−1.25</td>
<td>1.97</td>
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<tr>
<td>Welfare benefits</td>
<td>0.55</td>
<td>0.50</td>
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<td>1</td>
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<tr>
<td>Border state</td>
<td>0.45</td>
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</tr>
<tr>
<td>Foreign born (%)</td>
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<td>9.22</td>
<td>1.78</td>
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<tr>
<td>Unemployment rate</td>
<td>5.65</td>
<td>0.93</td>
<td>3.4</td>
<td>8.1</td>
</tr>
<tr>
<td>Works in agriculture</td>
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<td>0.37</td>
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<td>Works in manufacturing</td>
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<td>Female</td>
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<td>0.39</td>
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<td>Age</td>
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<td>Education</td>
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<td>Married</td>
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<td>0.49</td>
<td>0</td>
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</tr>
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models (HLM) that produced very similar results to those of the ordinary least squares (OLS) models we show below (these results are available from the authors upon request). Hence, we employ OLS regression with fixed effects for years and robust standard errors, clustered at the state level. Because we are not interested in modeling random slope models, the clustered errors technique should adequately account for the nested nature of the data and correct the standard errors accordingly (see Arceneaux & Nickerson, 2009).

Findings

First, it is interesting to note some of the descriptive statistics in these data. Overall, the average length of stay for individuals migrating after 2001 is about 24 months. For undocumented immigrants, that average increases to 26 months. For documented immigrants, the average length of stay drops to 19 months. Twenty-five percent of the individuals were documented immigrants, and 75 percent were undocumented in these data. The majority of respondents were male (80 percent), and most respondents (62 percent) were married. We do see some notable differences between documented and undocumented immigrants in these data. These differences are presented in Table 2. As can be seen, undocumented immigrants are more likely to be male, younger, unmarried, and employed in manufacturing jobs than are their documented counterparts. These differences comport with other research examining the differences between documented and undocumented immigrants (Portes & Rumbaut, 2006). Given these differences, it seems appropriate that we control for these factors in our models.

In our first model, presented in Table 3, we run a baseline model, which predicts length of stay with enforcement, multicultural disposition, legal status, and our control variables. There is no statistically significant relationship between the level of federal enforcement or multicultural policies and length of stay. An individual’s legal status, however, is significant and produces a substantively large effect. On average, this model suggests that undocumented immigrants stay in the United States seven months longer than do their documented counterparts. Somewhat surprisingly, none of the state-level variables—percent foreign-born, unemployment, or the dummy variable for border states—are statistically significant. Several individual characteristics successfully predict migratory behavior, however. Individuals in the agricul-

<table>
<thead>
<tr>
<th>Table 2. Descriptive Statistics for Documented and Undocumented Immigrants</th>
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<tbody>
<tr>
<td><strong>Undocumented</strong></td>
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<tr>
<td>Average length of stay (months)</td>
</tr>
<tr>
<td>Average age</td>
</tr>
<tr>
<td>Average years education</td>
</tr>
<tr>
<td>Employed in agriculture (%)</td>
</tr>
<tr>
<td>Employed in manufacturing (%)</td>
</tr>
<tr>
<td>Female (%)</td>
</tr>
<tr>
<td>Married (%)</td>
</tr>
</tbody>
</table>

*Note: All differences are statistically significant except Employed in agriculture.*
tural and manufacturing sectors average a shorter amount of time in the United States (by roughly six months and three months, respectively), whereas women, more educated individuals, and those who are married tend to stay in the United States longer. Age does not appear to be a significant predictor of length of stay.

Table 3 also includes an interactive model, in which we include a multiplicative term between enforcement and legal status. This allows us to test whether there are differential effects of policy environments on immigrants of different legal statuses. We also ran two addition interaction terms between legal status and multicultural disposition.
policies and welfare benefits, respectively, but neither was statistically significant. They are therefore omitted from the results presented in Table 3. Overall, we expect some relationship to exist between federal enforcement and immigrant length of stay, but existing literature suggests that this relationship could be either negative (deterrence theory) or positive (as suggested by works on the effects of border enforcement). It is important to note that our expectation is not simply that deportation rates will affect overall length of stay; it is that increased enforcement will affect the length of stay for undocumented immigrants documented immigrants differently.

The addition of the interactive term in the model presents a clear, interesting story providing support for hypothesis 1c. Here we see that increased deportation rates significantly and substantially decrease the average length of stay for documented immigrants while increasing the average length of stay for undocumented immigrants, albeit by a smaller margin. Most importantly, these models clearly suggest that higher deportation rates do not “drive out” undocumented immigrants; instead, they seem to encourage documented immigrants to self-deport. The effect of a 1 percent increase in deportations on length of stay for documented immigrants is associated with a decrease of about 6.5 months, as captured by b_1. For an undocumented immigrant, however, the same increase in deportation rates produces an increase in length of stay of about seven days (b_1 + b_3 = 0.22). This difference in effects between these two groups is statistically significant at the 0.05 level.

Given that settlement of immigrants in border states has historically been higher, is perceived as less costly, and encourages shorter but more regular migrations, the effect of enforcement on migrant behavior may vary between border and nonborder states. Our expectation here is that the effects of enforcement will be less severe in border states than in nonborder states. This can be captured with an interaction among legal status, enforcement, and the border state variables. The final column in Table 3 presents the results from this three-way interaction. Based on the results, we conclude that deportation rates have a statistically significant negative effect on the length of stay for documented immigrants in nonborder states (captured by b_1).

The results also indicate an interactive effect between the variables. However, because the coefficients for the variables included in the interactions are conditional on the values of the other variables they are interacted with, direct interpretation of the coefficients is not straightforward. For example, b_2 (−4.87) captures the difference between documented and undocumented immigrants in nonborder states when deportation rates are at their average levels (i.e., equals zero). This difference is also statistically significant. However, because the relationships are specified as conditional, the magnitude and significance are dependent on the values of the other variables in the interaction. Figures 1 and 2 graphically display this conditional relationship. The y-axis in these figures is the expected length of stay for immigrants (\( \hat{Y} \)), based on the model in Table 3. In Figure 1 we see that in border states, the effect of deportation is positive for both documented and undocumented immigrants. Figure 2 presents the same relationship for nonborder states. As can be seen, the effect of enforcement remains positive for undocumented immigrants but is negative for documented immigrants. These differences are statistically significant.
Table 4 presents the marginal effects of deportation rates for four different hypothetical situations. Specifically, the table presents the marginal effect of deportation on documented and undocumented immigrants in border and nonborder states, respectively. As can be seen, deportation rates do not appear to significantly affect immigrants’ length of stay in border states, regardless of legal status. The effect is relatively small, positive, and approximately the same for both documented and undocumented immigrants, albeit not statistically significant in either case. For nonborder states, we see an extremely different pattern. Increases in deportation rates are expected to significantly decrease the average length of stay for documented immigrants but not for undocumented immigrants. This effect is both statistically significant and substantial. A one-standard-deviation increase in deportation rates (0.52), for example, is expected to decrease the length of stay for the average

![Deportation Rate and Length of Stay by Immigrant Status](image1.png)

**Figure 1.** Effects of Deportation on Length of Stay for Immigrants in All States.

![Deportation Rate and Length of Stay by Immigrant Status](image2.png)

**Figure 2.** Effects of Deportation on Length of Stay for Immigrants in Non-Border States.
documented immigrant by over six months. The expected effect of a similar increase in deportation rates in a nonborder state for undocumented immigrants is only about seven days and is not statistically significant. The model, then, does suggest that the differential effect of deportation rates between documented and undocumented immigrants is statistically significant and large, at least in nonborder states.

**Discussion**

These findings are consistent with a growing body of literature that has examined the effects of enforcement on migrant decision making. For example, using survey data of Mexican immigrants, Cornelius and Salehyan (2007) found that perceptions of border enforcement were not central in migrants’ decision-making considerations. These findings put into question the assumptions of deterrence theory, at least as specified above. There may be reason to believe, however, that the basic deterrence model used by many policymakers may be oversimplified and inappropriate. Nagin and Pogarsky (2001, 2004), for example, argue that the standard deterrence framework ignores an important consideration, namely, a discount factor. They argue that an individual may discount future costs, thus lowering the total expected cost in the decision calculus. Indeed, they argue that one must consider both the discount rate for costs that are to be incurred in the future and also the expected delay in receiving the sanction. This discount factor, then, acts to reduce the total expected costs of the sanction because immediate costs are perceived as more costly than distant costs are. For example, if an undocumented immigrant estimates that she or he can remain in the United States undetected for three years before being

<table>
<thead>
<tr>
<th>Effect of Deportation—Non-border States</th>
<th>Documented Immigrants</th>
<th>Undocumented Immigrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \hat{\beta} )</td>
<td>( -11.98^{**} )</td>
<td>( -0.45 )</td>
</tr>
<tr>
<td>SE</td>
<td>( (3.91) )</td>
<td>( (3.42) )</td>
</tr>
</tbody>
</table>

Note: Based on OLS estimates with 3-way interaction estimates. **\( p < 0.01 \). Conditional standard errors clustered by state are in parentheses.

We follow the advice of Brambor, Clark, and Golder (2006) in calculating the marginal effects and conditional standard errors, specifically:

Marginal Effects:  \[
\frac{\partial y}{\partial x} = \beta_1 + \beta_2 U + \beta_3 B + \beta_4 U B
\]

Conditional SE: \[
\hat{\sigma} \frac{\partial y}{\partial x} = \sqrt{\text{var} \beta_1 + U^2 \text{var} \beta_4 + B^2 \text{var} \beta_3 + U^2 B^2 \text{var} \beta_5 + 2U \text{cov} \beta_1 \beta_4 + 2B \text{cov} \beta_1 \beta_3 + 2UB \text{cov} \beta_1 \beta_5 + 2U^2 \text{cov} \beta_4 \beta_3 + 2B^2 \text{cov} \beta_4 \beta_5 + 2UB^2 \text{cov} \beta_4 \beta_5}
\]

Where \( U = \) Undocumented and \( B = \) Border.
apprehended, her or his utility calculus should discount not only the lower value of the cost (i.e., the discount rate) but also the expectation that it will not have to be paid for three years (i.e., the \( t \) term in the discount factor).

This rationale also has implications for the benefit side of the equation. That is, immigrants may also estimate the accumulated benefits they will receive, depending on how long they expect to be in the United States without being apprehended. Take the previous example. If the expectation is that the costs will not be realized for three years, the implication is that there will be three years’ worth of benefits accrued during this time period.\(^{10}\) This would have the effect of increasing the total benefits relative to a one-time future cost (at least in terms of legal costs).

Also ignored in the basic deterrence model is the consideration of the expected utility of immigrants’ current situation. That is, in many cases, the primary consideration in the decision to enter and to stay in the United States is based on an alternative expected utility. As Packer (1968, p. 45) eloquently put it, “[d]eterrence does not threaten those whose lot in life is already miserable beyond the point of hope.” This suggests that immigrants’ true calculus should include an expected utility of their situation in their home country.\(^{11}\) All this suggests that the theoretical assumptions often used in immigration policy may be insufficient and counterproductive. Indeed, this is confirmed in our empirical results.

**Conclusions**

When we consider these findings in the broader context of current immigration policy debates, we are most struck by the consistent evidence that policies do not produce the effects intended by policymakers. Hirschman (1991) puts forth the perversity and futility theses. The perversity thesis argues that attempts to change social orders often result in outcomes opposite of what was intended, and the futility thesis suggests that such attempts will have no lasting effect. Although many immigration policies are designed with the expectation of manipulating immigrant incentive structures to induce specific behaviors, they seem to induce behaviors that are equally rational, albeit unintended. Efforts intended to push out undocumented immigrants (increased deportations) actually do a better job at pushing out documented immigrants. Policies that some legislatures fear will make their state attractive to undocumented immigrants either have no effect on immigrant stay or actually shorten the length of time that documented immigrants choose to reside in the state. This last point deserves further exploration. Perhaps limited subsets of the immigrant population are affected by state policy. Or, federal enforcement and economic conditions may play such a determinative role in migrant behavior that the impact of state policy can never be great.

Despite the evidence, there are a number of limitations to this analysis. First, it is bound by the years of data that we have available. As such, this analysis does not include developments that occurred in the wake of Arizona’s SB 1070. News from Arizona and other states that adopted similar legislation contained accounts of many immigrant families self-deporting, but we have no systematic information about
how many individuals relocated, if they returned, and if they were primarily undocumented. Kansas Secretary of State Kris Kobach recently estimated that if SB 1070–style laws were adopted across the 50 states, 5.5 million immigrants (half of the estimated 11 million undocumented immigrants living in the United States) would self-deport by 2016 (Morley, 2012). The basis of Kobach’s estimate is unclear, and our data cast significant doubt on the veracity of his claims. Nevertheless, we are interested to see whether the long-term effects of recent reforms and omnibus efforts produce different effects—or if they result in outcomes similar to earlier policy efforts.

Second, our data only include Mexican migrants. Obviously, the undocumented population includes large numbers of migrants from other regions, especially South America and Asia. Yet, Mexican migration has been the more salient migration issue discussed among U.S. policymakers in recent decades; as such, Mexican migrants are the most appropriate group to study when evaluating state policy effects and regional fluctuations in federal deportation rates. We hope to include other groups in future analyses as data permit.

Despite these limitations, we believe that this analysis makes an important contribution to the work on immigration policy. Getting good, reliable data on undocumented immigrants is a difficult process, and we are indebted to the work of Jorge Durand, Douglas Massey, and their colleagues, who built the MMP. These data have allowed us to analyze immigrant behavior and link it to variations in state policies and regional deportation rates in ways that had not been done previously. We hope these findings will inform the policy process and contribute to the work of colleagues studying immigration policies in the United States.

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Notes

1. Ideally, we would also examine the movement of immigrants during their stay within the United States. This would allow us to see whether initial settlement and relocation are affected by public policy decisions. Unfortunately, the MMP data does not track migrants across multiple destinations. Only one site is recorded for each trip. This is a shortcoming, which we must trade for the large sample of migrants across time offered by the MMP.

2. The final analysis includes data from 35 states. The following states are not included in the analysis due to missing data: AK, CT, HI, KS, MD, ME, MT, ND, NH, OH, OK, RI, SD, VT, and WV.

3. Mean-centered variables are particularly useful in interpreting the coefficients when interactions are used, especially in models with more than one interaction term (Raudenbush & Bryk, 2002).

4. In the models, this variable is mean-centered, as we include it in an interaction.
5. The models only include immigrants who are at least 18 years old. Younger immigrants were dropped from the models.

6. Technically, these data have three levels: household, individual, and state. These levels are not inherently nested, as households are based on the immigrants’ households in Mexico. Hence, two individuals from the same household could go to two different states. This complication suggests that nonnested cross-random effects models are appropriate (Rabe-Hesketh & Skrondal, 2008). Nested and nonnested cross-random effects models (both two- and three-level models) produce results that are consistent with the OLS models.

7. Duration models (with a dichotomous dependent variable indicating when the immigrant ended their migration) produce very similar results. These results are available from the authors upon request.

8. The models use mean-centered deportation rates to make the interaction coefficients more easily interpretable. The graphs and descriptive statistics, however, present the actual values rather than the mean-centered values.

9. Specifically, they argue that the calculus can be thought of as: $1 - pU(b) > \delta pU(c)$ so that the expected costs are scaled by $\delta_t = \left[ \frac{1}{1 + r} \right]$, where $r$ is the discount rate and $t$ is expected delay in the sanction.

10. This implies the new utility function should be something akin to $1 - \delta_t pU(b) > \delta_t pU(c)$ where both the benefits and costs take into account an expected discount rate and a time element.

11. Formally, this could be expressed as $U(a) < 1 - pU(b) > pU(c)$ where $U(a)$ represented the expected utility of staying/returning to their home country.

References


